REMARKS

Claims 1-11 are pending in this application with claims 1, 6 and 11 being amended by this response.

Rejection of Claim 6 under 35 USC § 102(b)

Claim 6 is rejected under 35 U.S.C. 102(b) as being anticipated by Sherer (US Patent No. 5,790,959).

The present invention, as claimed in claim 6, describes a radio frequency transmitter having a bandwidth split in at least two selected working subbands separated by at least one non selected band. The radio frequency transmitter includes a first mixer which converts a first signal into a second signal by frequency transposition by means of a transposition signal coming from a frequency synthesizer. A filtering means converts the second signal into a third signal by selecting part of the spectrum of the second signal. A second mixer converts the third signal into a fourth signal by a fixed frequency transposition. Radiowave transmission means convert the fourth signal into an electromagnetic wave. The filtering means comprises at least two band-pass filters of split bandwidths provided with switching means. This makes it possible to select one of the filters. The frequency synthesizer delivers a transposition signal varying within a range depending on the width of the split bandwidths and on the width of the non selected bandwidth.

The present claimed invention is concerned with providing a receiver having **a high bandwidth over 1.9GHz.** "The use of a conventional device such as that in Figure 1 [, prior art,] is not possible for many reasons. Among others, the frequency synthesizer 6 would have to operate over a 1.9 GHz range. Unfortunately, it is very difficult to produce such a synthesizer using current means." (Page 2, lines 25-30).

The problem addressed by the present invention is the inability of current transmitters to transmit a very broad bandwidth using current synthesizers. To solve this problem the present claimed invention provides a simple solution: It is an object of the invention to provide a simple solution for a broadband transmitter whose received working bandwidth is split into at least two non-contiguous sub-bands (Page 2 line 37- Page 3, line 2).

The present claimed invention uses **two switched filters associated to a single synthesizer** to make it possible to operate over a very broad range. "**The use of two switched filters makes it possible to use a single synthesizer** to scan the at least two sub-bands of the working bandwidth" (Page 3, lines 17-19). "It has a bandwidth spread out over a spectral width w, (Fig. 4a) with, for example, w equal to 1.9 GHz and lying between 18.3 and 20.2 GHZ. The working part of the bandwidth is split into two sub-bands B1 and B2 (Fig. 4a) which have, for example, the same width, namely 500 MHz, and are located between 18.3 and 18.8 GHz and between 19.7 and 20.2 GHz" (Page 4, line 38- Page 5, line 5, Claim 6, lines 12-17). "The frequency synthesizer operates for one sub-band in **superdyne mode** and for the other sub-band in **infradyne mode**" (Page 3, lines 20-22). "The bands B'1 and B'2 correspond, for example, to the 1.3 to 1.8 GHz and 2.7 to 3.2 GHz bands" (Page 5, lines 29-31).

The signal of frequency **Fvco varies within a frequency range** (for example 2-2.5GHz) of the same width (namely 500MHz) as the bandwidths of the 2 filters, in order that the resulting band B"1(for example 0.7-1.2GHz) or B"2 (for example 0.2-0.7GHz) is placed within the frequency spectrum and that a channel selected from the resulting band lies near an intermediate frequency FIo, for example equal to 700 MHz. (Page 6, lines 12-22, Claim 6, lines 15-17). A mixer 11 coupled to a local oscillator 12 transposes, as known from the state of the art, the selected channel into a base band.

Scherer (U.S. Patent No. 5,790,959) discloses a programmable band select and transfer module for local multipoint distribution service base stations. The band select is made up of transmit programmable band select transfer modules (tPST) and receive programmable band select transfer modules (rPST). "The rPST and tPST modules each select a spectral segment from an applied uwave signal by first shifting the frequency of

the uwave signal so that the spectral segment programmed to be selected is disposed about a predetermined IF frequency. Once shifted to the IF frequency, the spectral segment is selected by filtering the frequency shifted uwave signal using one of multiple fixed frequency filters" (Column 2, lines 23-30). "Each of the multiple fixed frequency filters has a different bandwidth, enabling spectral segments of various bandwidths to be selected by alternately switching between the multiple filters" (Column 2, lines 31-35). These filters are "multiple band selection filters" (Column 4, line 31). "Since the filtering takes place at this fixed predetermined IF frequency F, the filters 39a, 39b 39c can be optimized for selectivity" (Column 4, lines 37-39).

Scherer is concerned with providing the selection and translation of spectral segments within sectors of a base station. The module comprises switches to select the filters which permits selection of 40, 80, 120 MHz wide spectral segment corresponding to 3 different bands The filtering take place at a fixed predetermined IF frequency (1.2 GHz).

The Examiner suggests that claim 6 is unpatentable as Scherer describe filters with separate established bandwidths. However, Scherer is concerned with the optimization of the frequency response of the filters selecting spectral segments. Scherer is not concerned with the problem of operating over 1.9 GHz using a single conventional frequency synthesizer. This is unlike the present claimed invention which solves the problem of operating, using a single synthesizer, over 1.9 GHz by splitting the bands into 2 non-contiguous bands. The single synthesizer delivers a tuning signal varying in a range to enable the scanning of the two sub-bands of the working bandwidth. Therefore, as Scherer is not concerned with using a single synthesizer to operate at over 1.9GHz, Scherer neither discloses nor suggests "that the frequency synthesizer delivers a transposition signal varying within a range depending on the width of the split bandwidths and on the width of the non selected bandwidth" as claimed in claim 6 of the present invention.

In view of the above remarks and amendments to the claims it is respectfully submitted that there is no 35 USC 112 compliant enabling disclosure in Scherer showing the above discussed features as claimed in Claim 6. It is thus further

respectfully submitted that claim 6 is not anticipated by Scherer. It is thus respectfully submitted that this rejection is satisfied and should be withdrawn.

Rejection of Claims 1 and 11 under 35 USC § 103(a)

Claims 1 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sherer (US Patent No. 5,790,959).

The present claimed invention, as claimed in claims 1 and 11 recite a radiofrequency receiver having a bandwidth split in at least two selected working subbands separated by at least one non selected band. The radiofrequency receiver includes a radiowave receiving means which converts an electromagnetic wave into a first signal. A first mixer then converts the first signal into a second signal by a fixed frequency transposition. A filtering means converts the second signal into a third signal by selecting part of the spectrum of the second signal. A second mixer converts the third signal into a fourth signal by frequency transposition by means of a transposition signal coming from a frequency synthesizer. The filtering means comprise at least two band-pass filters of the split bandwidths provided with switching means which make it possible to select only one of the filters. The frequency synthesizer delivers a transposition signal varying within a range depending on the width of the split bandwidths and on the width of the non selected bandwidth.

Similarly to the system of claim 6, as discussed above, the system of claims 1 and 11 use a single synthesizer associated with two switched filters to scan the at least two sub-bands of the working bandwidth. The signal of frequency Fvco of the synthesizer varies within a frequency range of the same width as the bandwidths of the two filters. It does this so that the one of the resulting sub-band bandwidths are placed within the frequency spectrum and a channel selected from the resulting band lies near an intermediate frequency FIo.

Scherer is not concerned with operating over 1.9 GHZ using a single conventional frequency synthesizer as in the present claimed invention. Scherer has no use for a single frequency synthesizer with a varying transposition signal. Therefore, Scherer neither discloses nor suggests "that the frequency synthesizer delivers a transposition signal varying within a range depending on the width of the split bandwidths and on the width of the non selected bandwidth" as claimed in claims 1 and 11 of the present invention.

Furthermore, it would not have been obvious to one skilled in the art to implement this feature in the system of Scherer. Scherer is not even concerned with operation over 1.9GHz. Scherer are merely concerned with the operation over a fixed predetermined frequency (1.2GHz). Therefore, it would not have obvious to add the feature stating "that the frequency synthesizer delivers a transposition signal varying within a range depending on the width of the split bandwidths and on the width of the non selected bandwidth" as claimed in claims 1 and 11 of the present invention to the system of Scherer.

In view of the above remarks and amendments to the claims it is respectfully submitted that there is no 35 USC 112 compliant enabling disclosure in Scherer showing the above discussed features as claimed in Claims 1 and 11. It is thus further respectfully submitted that claims 1 and 11 are not anticipated by Scherer. It is thus, further respectfully submitted that this rejection is satisfied and should be withdrawn.

Rejection of Claims 2-5 and 7-10 under 35 USC § 103(a)

Claims 2-5 and 7-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sherer (US Patent No. 5,790,959) in view of the prior admitted art.

Scherer, as discussed above, is not concerned with operating over 1.9 GHZ using a single conventional frequency synthesizer as in the present claimed invention and therefore, has no use for a single frequency synthesizer with a varying transposition signal. Therefore, Scherer neither discloses nor suggests "that the frequency synthesizer

delivers a transposition signal varying within a range depending on the width of the split bandwidths and on the width of the non selected bandwidth" as claimed in claims 1 and 6 of the present invention.

As claims 2-5 and 7-10 are dependant on independent claims 1 and 6 respectively, it is respectfully submitted that these claims are allowable for the same reasons as discussed above in regards to independent claims 1 and 6.

Having fully addressed the Examiner's rejections, it is believed that, in view of the preceding amendments and remarks, this application stands in condition for allowance. Accordingly then, reconsideration and allowance are respectfully solicited. If, however, the Examiner is of the opinion that such action cannot be taken, the Examiner is invited to contact the applicants' attorney at the phone number below, so that a mutually convenient date and time for a telephonic interview may be scheduled.

Please charge the $790 fee for filing the Request for Continued Examination and the $120 fee for the One-Month Extension of Time, and any other fees that may be associated with the filing of this response, to Deposit Account No. 07-0832.

Respectfully submitted,

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Date: June 15, 2005 Patricia M. Fedorowycz

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